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ABSTRACT

Reported is the 1970-71 school year of Vermont's Consulting Teacher Program (Burlington) during which one consulting teacher, one consulting teacher intern, and one consulting teacher-in-training assisted 37 teachers and three aides in providing special educational services for 79 students in regular elementary classrooms and two students in special classes. The report examines service and research activities such as (consultation with district teachers, an accredited course for district teachers, a fall workshop, and followup of two students served in 1969-70); teacher preparation (involving two inservice workshops, accredited course work and practicum experience in classroom application of behavior modification principles); parent involvement; and dissemination activities. The appendix contains sample service/research projects in which participating teachers describe particular students, behaviors which the teacher desired to change, teaching/learning methods and materials, baseline and contingency data, and results. (GW)

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SUMMER PROGRAM
SPECIAL EDUCATION PROGRAM
UNIVERSITY OF VERMONT

1970 - 1971

YEARLY REPORT

CONSULTING TEACHER PROGRAM

BURLINGTON SCHOOL DISTRICT

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ACKNOWLEDGEMENT

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ABSTRACT

A cooperative project of the College of Education, University of Vermont; Division of Special Educational and Pupil Personnel Services of the Vermont State Department of Education; and the Burlington District in Chittenden County; funded under Title VI-A, Elementary and Secondary Education Act.

During the 1970-1971 school year, the Consulting Teacher Program in the Burlington School District provided special educational services for 79 children eligible for special education services enrolled in regular elementary classrooms and two enrolled in special classrooms. One Burlington consulting teacher, one consulting teacher intern, and one consulting teacher-in-training assisted 37 teachers and three aides who requested consulting services. Cooperating teachers obtained daily measures of educational and social deficits of children eligible for special education services, which were then ameliorated through applications of behavior modification principles. In addition, the consulting teacher staff conducted workshops for teachers during the fall and spring terms to provide in-service training in behavior modification principles, and the consulting teacher offered a graduate level education course each semester for Burlington school teachers.

PARTICIPANTS

BURLINGTON SCHOOL DISTRICT

Dr. C. Edward Hamilton, Superintendent
Dr. Howard B. Goodrich, Asst. Superintendent, Instruction
Stanley C. Faryniarz, Asst. Superintendent, Special Services
Lois Holbrook, School Psychologist
Betty Jane Lates, Consulting Teacher
Mary Carter, Consulting Teacher Aide, full-time
Ruth Maddocks, Consulting Teacher Aide, half-time

UNIVERSITY OF VERMONT, CONSULTING TEACHER PROGRAM STAFF

Dr. Edward M. Hanley, Asst. Professor
Betsy Schneider, U.V.M. Consulting Teacher
Betty Jane Lates, Adjunct Professor
Cheryl Flood, Consulting Teacher Intern, Graduate Student
Patricia Pierson, Consulting Teacher-in-Training, Graduate Student

ADAMS SCHOOL

Roger Wallace, Principal
Elizabeth Kelley, School Nurse
Barbara Bouvier, Grade 6
Gail Brown, Grade 2
Ann Browne, Transition Grade 1
Barbara Butler, Grade 1
Florence Keyes, Grade 5
Grace McDonald, Kindergarten
Barbara Ordway, Grades 4-6
Nancy Pandina, Grade 3
Elizabeth Riegelman, Grade 2

LAWRENCE BARNES SCHOOL

Joseph Cichello, Principal
Elizabeth Dunton, Home-school Coordinator
Judith Moulthrop, Grade 3

LAWRENCE BARNES ANNEX

Pauline Bosworth, Director
Constance Miles, Learning Center
Susan Stuart, Grade 1
Frances Whitney, Grade 1
Deborah Wolf, Aide

CHAMPLAIN SCHOOL

Peter Jeffery, Principal
Barbara Dyck, Grade 2
Phyllis Marcell, Special Education

CHRIST THE KING SCHOOL

Sister Cecile Bouchard, Principal
Sister Germaine, Grade 2
Agnes Induni, Grade 3
William McBrien, Grade 6
Sister Marie Rita, Grade 5
Catherine Noonan, Grade 4
Sister Sandra Bleau, Grade 4

JOHN J. FLYNN SCHOOL

Roland Limoge, Principal
Kuno Olson, Guidance
Cynthia Aitkin, Grade 5
Sarah Butz, Grade 4
Betsey Casey, Grade 1
Emma Gove, Ungraded
Edythe Greene, Grade 6
Velma Phillips, Grade 1
Carole Stillinger, Grade 1
Pamela Torrey, Kindergarten
Miriam Van Dreser, Grade 2

S. W. THAYER SCHOOL

T. Fenn Rider, Principal
Elizabeth Dyer, Ungraded
Mary Godbout, Ungraded
Constance Gordon, Ungraded
Margaret Hamelin, Ungraded
Dorothy Hamilton, Ungraded
Jennifer Howard, Ungraded
Dorothy Rogers, Ungraded
Joan Donath, Library Aide

BURLINGTON HIGH SCHOOL

Barry Gleim, Principal
William Fisher, Asst. Principal and ASPIRE Director
Evelyn Carter, ASPIRE Teacher
Richard V. Lates, ASPIRE Teacher
Mary Carter, ASPIRE Tutor

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INTRODUCTION

The consulting teacher, in cooperation with the classroom teacher, seeks to provide special educational services to eligible children who are enrolled in regular elementary classrooms. These services are provided through systematic applications of learning principles and are evaluated through functional analyses of behaviors of concern. For a more complete description of the rationale and method of the consulting teacher approach to special education, the reader is referred to the 1968-1969 Yearly Report of the Consulting Teacher Program, Volume I.*

SERVICE AND RESEARCH

Procedures

In the Burlington School District, the consulting teacher team included a full-time consulting teacher, one consulting teacher intern, one consulting teacher-in-training, one full-time aide, and one half-time aide. Costs for the program were met by the district and Title VI ESEA State of Vermont funds. The Burlington School District provided office space, necessary supplies and equipment for the program, Social Security benefits for the consulting teacher and consulting teacher intern, and over half of the consulting teacher's salary.

The consulting teacher spent four days each week consulting with district teachers, providing a UVM accredited course for

McKenzie, H. 1968-1969 Yearly Report of the Consulting Teacher Program, Vol. I.: Burlington, Vt., Consulting Teacher Program, College of Education, University of Vermont, 1970.

district teachers, and assisting the consulting teacher intern and consulting teacher-in-training in the fall workshop. One day each week was spent consulting with the UVM program staff members concerning program goals and the effectiveness of classroom procedures.

The consulting teacher intern spent three to four days each week in the school district, while the consulting teacher-in-training worked two to three days for the district. The remaining days were spent on course work at UVM, consulting with UVM program staff members on individual service projects in the schools, and preparation of materials for workshop participants. Services provided by the consulting teacher intern and the consulting teacher-in-training included consulting with workshop and course participants, making classroom observations, and assisting teachers with workshop and course requirements. The consulting teacher intern and the consulting teacher-in-training co-directed a fifteen-week workshop for inservice training of teachers in the fall. In the spring, the consulting teacher intern and consulting teacher-in-training each directed workshops. The supervision of the consulting teacher intern and the consulting teacher-in-training's practicum experience was provided by Dr. Edward M. Hanley and Betsy M. Schneider, Special Education Program staff members.

Results

A total of 79 children were served in the schools of Adams, Champlain, John J. Flynn, S. W. Thayer, Lawrence Barnes, Lawrence Barnes Annex, Christ the King, and Burlington High School.

Seventy-seven of these children were enrolled in regular elementary classrooms, while two children were enrolled in special classes. Seventy-nine children demonstrated changes in desired directions as indicated by graphs depicting measures of behavior. In addition, indications of improvement were reported by teachers, parents, and other school personnel. Of the 79 children served, 19 children were provided special procedures for the entire school year. Twenty-one children received special attention for two or more behaviors. For each child served, a written report was prepared which included a brief description of the child, definitions of behaviors of concern, measurement procedures, teaching/learning procedures, and results. Reports were provided for each child's permanent record folder, as well as for the parents of each child. Due to space limitations, only representative studies conducted by teachers will be presented herein. Complete descriptions of all the studies will be available upon request from the Consulting Teacher Program, University of Vermont.

Behaviors of concern included academic behaviors such as attending to reading, arithmetic, and work materials; completion of self-assigned tasks, writing, and spelling; and social behaviors such as speaking out without permission, thumbsucking, mispronunciations, following school rules, and disruptive and aggressive behaviors.

Effective teaching/learning procedures devised for increasing appropriate classroom behaviors included the use of immediate and frequent teacher praise for desired behavior, opportunity for free time, feedback graphs, immediate correction, opportunity to

wear badges and pins, cards sent home, and tokens presented for appropriate behavior. Tokens were later exchanged for free time activities, games, special school jobs, small trinkets, home praise, time with a parent, or money given at home. For some children, teacher praise for appropriate behavior was effective in decreasing inappropriate behavior.

Follow up procedures

Of the 29 children served during the 1969-1970 school year, follow up services were provided for two elementary children on the basis of requests from current teachers. Services included conducting service/research projects of behaviors of concern for the current year. A third child left the Burlington School District and received follow up services from a consulting teacher-in-training in a neighboring district. For some of the children, current information, such as satisfactory academic levels, achievement test scores, grades and promotions were obtained through telephone conversations and meetings with current teachers. For the other children, no requests for follow up services were made.

TEACHER PREPARATION

Inservice - Workshop

In cooperation with the Burlington consulting teacher, the consulting teacher intern and consulting teacher-in-training conducted two workshops for inservice training of teachers. A half-year workshop was held at Thayer School for ten teachers from three different elementary schools. Two separate second semester

workshops were conducted serving six teachers from one parochial school and four teachers from four public schools.

During the first semester, participants met for one hour sessions, one afternoon a week, for 15 weeks. During the second semester, participants met individually with their instructor at least one hour a week for 15 weeks. Course work included an introduction to learning principles. Practicum experience involved classroom applications of these principles in providing special educational services to handicapped learners. Movies were available for the teachers during workshop sessions which pertained to the application of principles of learning theory in the classroom.

Each participant undertook a service/research project involving a handicapped learner. During a specified daily period, the teacher observed and recorded the behavior as it occurred in the classroom. Objectivity of definition and recording was provided by the consulting teacher intern and consulting teacher-in-training. When initial measures which defined behaviors of concern were obtained, the teacher arranged the classroom environment so that the defined behavior of the child was modified in the desired direction. The consulting teacher intern and consulting teacher-in-training also helped each teacher develop programmed instructional materials when warranted by children's handicaps.

The effectiveness of a particular teaching/learning procedure was monitored by graphs depicting daily measures of behavior. If the graphs did not show changes in the desired direction, the procedure was modified or a new procedure was introduced. In

this way, the teacher assumed the responsibility for arranging the classroom environment so as to provide measured educational growth.

Procedures found effective for one period during the day were often carried out by teachers during the remainder of the day. In addition, three teachers used similar procedures for other children in their classrooms.

Consultants from the University for these workshops included one psychologist and one U.V.M. consulting teacher from the staff of the University program.

Inservice - U.V.M. Accredited Course

The Burlington consulting teacher offered an undergraduate/graduate level course in education (Laboratory Experience in Education: Achieving Educational Objectives for Handicapped Learners; I and II) during the fall and spring semesters for 17 teachers and one aide in the Burlington School District. Four of the 18 teachers enrolled in the course for both semesters. Fall classes were held weekly for one-hour sessions over a 15 week period in the Thayer Elementary School. During the spring semester, classes were held each week for each teacher on an individual basis.

During both semesters, classroom teachers applied techniques and procedures for managing and educating handicapped learners in regular elementary classrooms. Work units developed by the Consulting Teacher Program, individual readings, and films were provided for the teachers.

During the fall semester, the consulting teacher intern and the consulting teacher-in-training assisted the consulting teacher

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by making classroom observations, by providing individual help to teachers enrolled in the course, and by testing the teachers on completed work units.

During the spring semester, the consulting teacher intern assisted the consulting teacher by working with one teacher enrolled in the course for the entire semester.

Role and Training of Consulting Teacher Aides

One consulting teacher aide was employed full-time, while a second aide was employed on a half-time basis. The major role of the full-time consulting teacher aide was that of technical assistant. Technical assistant duties included collating, tabulating, and graphing the daily measures of behaviors obtained by each teacher; obtaining measures simultaneously with teachers to ensure objectivity of measurement and recording procedures; calculating reliability coefficients, ranges, and averages for each project; developing data sheets for individual teachers; insuring that teachers were provided with adequate materials; and the preliminary writing of reports.

The half-time aide graphed data and performed secretarial duties which included filing data, case studies, and other office materials; preparing reports; ordering office supplies and learning materials; and completing office forms for expenses. In addition, the aides mimeographed and collated teaching/learning materials used in teacher workshops and courses.

In general, training of the half-time aide was undertaken by the consulting teacher intern who demonstrated how to plot

measures on graph paper and how to record daily data on tabulation sheets. The full-time aide had participated in the Barnes Annex Workshop during the 1969-1970 school year. Thus, when she began the current school year, she was familiar with the procedures used by the consulting teacher. The full-time aide enrolled in the fall semester course and carried out a service project at Burlington High School in the ASPIRE program.

PARENT INVOLVEMENT

Service/research projects were undertaken with the informed and written consent of the parents. Conferences were held with the parent in order to explain procedures and obtain written permissions. Some parents expressed interest in helping their children at home.

One parent carried out a project at home for her son. Twelve parents cooperated with the classroom teachers by providing reinforcers in the homes at the appropriate times.

DISSEMINATION

Meetings were held with the Director of Pupil Personnel Services for the Burlington School District as well as the school psychologist, guidance counselor, and principals to provide information on current activities and progress of children served. In addition, meetings were held to plan directions and services for the ensuing year.

The consulting teacher, consulting teacher intern, and

a school district teacher, presented the Consulting Teacher Program services at the Superintendent's Luncheon in the fall of 1970. The consulting teacher and a school district teacher were guest lecturers at a course in Physical Education for the Atypical Child at the University in December. The consulting teacher also presented a paper at the Second Annual Convention for Behavioral Educators at the University of Kansas in May, 1971.

The consulting teacher intern presented, with workshop participants, the results of the spring workshop at Christ the King School.

Both the consulting teacher intern and the consulting teacher-in-training participated in a presentation at Trinity College, VEA Convention, and the consulting teacher intern also attended the Convention in Kansas in May.

At the Second Annual Convention for Behavioral Educators in Burlington, in May of 1971, three consultees from the Burlington District presented their service projects.

Visitors to the district Consulting Teacher Program and elementary schools included a representative from the Follow Through Data Retrieval Center at the University of Kansas, four representatives from the Waterbury Elementary School, eight student teachers from England, two specialists from Brattleboro schools, and a principal and superintendent from the Ludlow school system. In addition, Miss Jean Garvin interviewed the consulting teacher, and visited one elementary school during an evaluation of the Special Education Program, College of Education. Miss Jean

Garvin and Miss Josephine Taylor also visited the district during a Bureau for the Education of the Handicapped site visit.

Letters requesting individual evaluations were sent to all teachers and aides participating in the program, as well as to the principals and the parents whose children were served.

Anne Browne - Adams School

PROCEDURES

Subjects and classroom

Rachael, Ronny, and Cal were pupils in a transitional first-grade classroom of 12 children. Each of the pupils had previous kindergarten experiences, but lacked the appropriate academic and social skills to enter an average first-grade classroom.

The teacher noted that the majority of her pupils did not complete their assignments, made careless errors, and were very easily distracted from their work. Their lack of motivation and inability to work independently greatly hampered their success. For these reasons, the teacher decided to set up a contingency management program for her entire class. Measurements were kept and graphed for all 12 children, however, only the individual data for Ronny, Rachael, and Cal and the averaged whole class data will be presented.

Cal was a six-year-old boy, who had poor writing skills and showed a lack of coordination. Ronny was an unmotivated six-year-old boy who seldom completed his work. Rachael, a six-year-old girl, had been excluded from attending her afternoon class because of inappropriate social behaviors. Through the systematic use of a token system, the teacher previously decreased Rachael's inappropriate social behaviors and was now interested in improving her academic behaviors.

Behaviors and measurements

Three specific language behaviors were defined. These were

measured for each pupil in the class.

The daily writing lesson included writing the name of the day, the month, first name, last name, and address. The teacher made a model of the capital and small form for one letter of the alphabet on the board. Each child was required to write each form five times. Each of the words written correctly was scored as one response. Thus, a total of 15 correct responses was possible. Criteria for "correctly written" were: the letter or letters touching the bottom line of the primary writing paper, as well as the appropriate line above the letter, legible and correctly formed according to the teacher's model.

Four individualized teacher prepared work papers were presented daily to each child. Papers included work in reading, readiness work and recognizing color words. The percent correct was calculated for each paper. The four percentages were then averaged.

The third behavior measured was the percent correct in reading workbook assignments. Each child was assigned two pages from the workbook daily, individualized to his specific level. The percent correct for both pages was calculated and averaged.

To insure objectivity of definition and measurement procedures, an independent observer periodically calculated percentages correct. Reliability was 100% in all cases.

A multiple baseline design across the three behaviors was used to demonstrate the relationship between the behaviors and the systematically applied consequences used to modify them. Measurement of the three behaviors for all 12 pupils provided a baseline against which changes were evaluated. The teacher then applied consequences for each behavior at different points in time during the course of the school year.

Teaching/learning methods and materials

The first two hours of the morning were conducted as an independent study time when the pupils completed their individual assignments.

The teacher corrected assigned worksheets as the children worked on them, by placing big red C's next to the correct responses.

Instructional materials for language included teacher prepared worksheets and the Palo Alto reading workbook (Palo Alto Reading Program: Sequential Steps in Reading. Harcourt, Brace and World, Inc., 1968.)

Baseline

The teacher corrected each paper as the children worked and recorded the number of correctly written letters and words, the average percent correct for four workpapers, and the average percent correct for the two reading workbook pages.

Contingency (writing only)

A token system was established using points contingent upon academic work. When the child finished the writing lesson, he

raised his hand and the teacher corrected it immediately by circling those letters or words which met her criteria. Incorrect responses were ignored and individual instruction was given at this time. One point was given for each correctly written word and each correctly written letter. The points were recorded on an index card marked off in 100 squares. The pupil continued working to complete his four work papers and workbook, but points were not given for these behaviors at this time. All three behaviors continued to be measured by the teacher.

At the end of the morning, the pupil used his points to buy activities during a "fun time" period. Activities such as painting, using the work bench, and playing in the doll's house had a higher cost than activities such as blocks, puzzles, and games. Later on, when points were also made contingent on correct work papers and reading, the prices of the activities were raised because of the increased earning power of the children.

Any child who did not spend all of his points for fun time used the remaining points to buy "class helper" jobs for the following day. The pupil with the greatest number of points was able to choose his job first. The one with the next largest number of points chose next, and so on, until each child had a job. Those children who had no points left over, chose last. In this way, all points earned for that day were used and a new point card was begun the next day.

After nine days of contingent points for writing, contingent points were systematically applied to the work papers. When the

four papers were completed, the child raised his hand and the teacher corrected the work. The pupil received 10 points for a perfect (100%) paper. Thus, if each paper were 100% correct, a total of 40 points could be earned. If the child corrected every mistake on his paper, he earned 5 points. One point was given when the child wrote his name on each paper. Thus, a possible 44 points could be earned for work papers, bringing the total possible points to be earned for writing and work papers to 59. The prices of the fun time activities were increased proportionately.

After these procedures had been in effect over a 10 day period for writing and work papers, contingent points were also given for correct workbook assignments. The child received 20 points for a completely correct page in the workbook. When he corrected all errors, he received 10 points. One point was given for writing his name. Thus, a total of 41 points was possible for workbook assignments, making it possible to earn a total of 100 points. As before, prices on the fun time activities were raised accordingly.

RESULTS

Figure 1 shows the measurements obtained for the class average. The mean number of correct responses in writing during baseline was less than 1. When points were made contingent upon correct writing behavior, the class average increased to a mean of 7 correct responses.

During baseline, the class average for percent correct on work papers was 77%. During contingency, it increased to 85% correct. The average percent correct for the workbook behavior during baseline was 76% and during contingency, it was 87%.

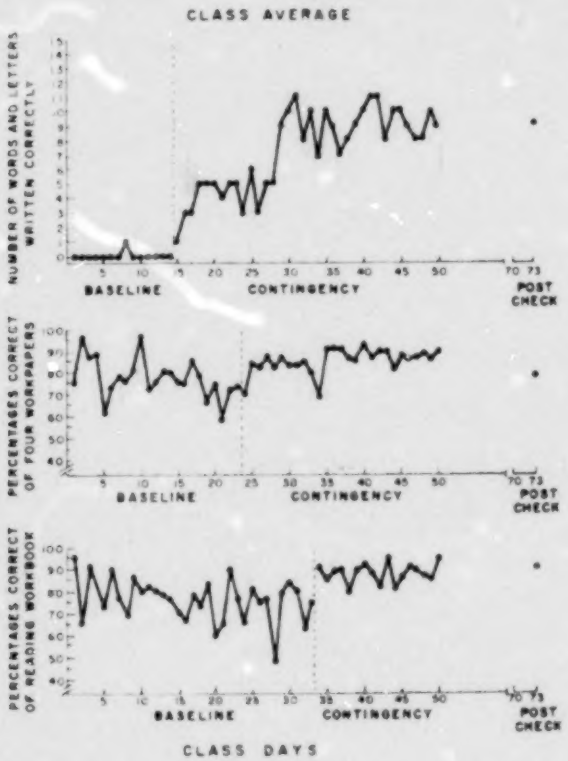

Fig. 1. Daily class averages for three different language behaviors.

Figure 2 presents the measurements for Ronny. During baseline in writing, the mean number of correct responses was less than 1, ranging from 0 to 3. When points were applied contingently, correctly written responses increased to a mean of 8 with a range of 1 to 14. During baseline, the mean percent correct on work papers was 81%, ranging from 42% to 100% correct. The mean percent correct increased to 91% during contingency, ranging from 73% to 100% correct. During

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baseline for the workbook behavior, the mean percent correct for Ronny was 74%, ranging from 0% to 100%. When points were systematically applied, the mean increased to 94% correct, ranging from 62% to 100% correct.

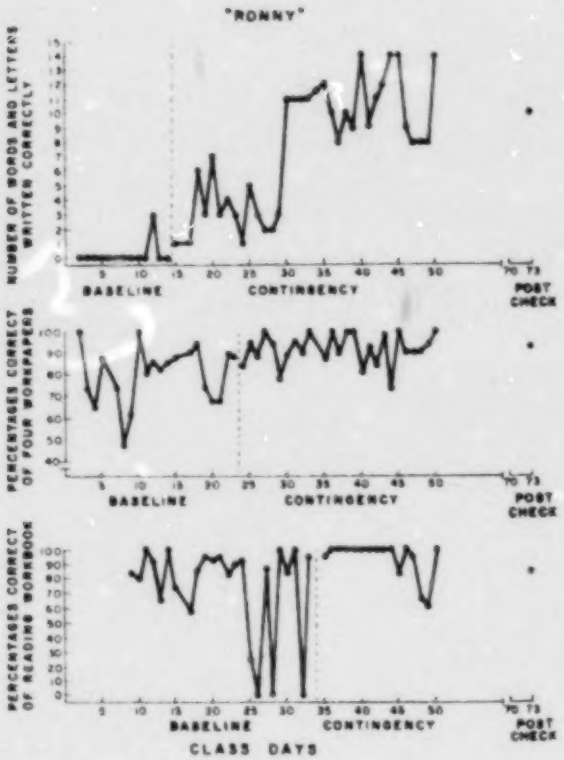

Fig. 2. Daily correct language responses for Ronny.

As presented in figure 3, writing responses during baseline, averaged less than 1 for Rachael. She received a score of 1 on one day only, and 0 on all other days. During contingency, writing responses increased to a mean of 7, ranging from 1 to 12 correct responses. During baseline on work papers, the mean was 77% correct, with a range of 0% to 100% correct. When points were

applied contingently, the mean increased to 85%, ranging from 44% correct to 100% correct. During baseline for the workbook behavior, there was a mean of 70% correct and a range of 0 to 100% correct. During contingency period for workbook behavior, the mean increased to 94% correct, ranging from 66% to 100% correct.

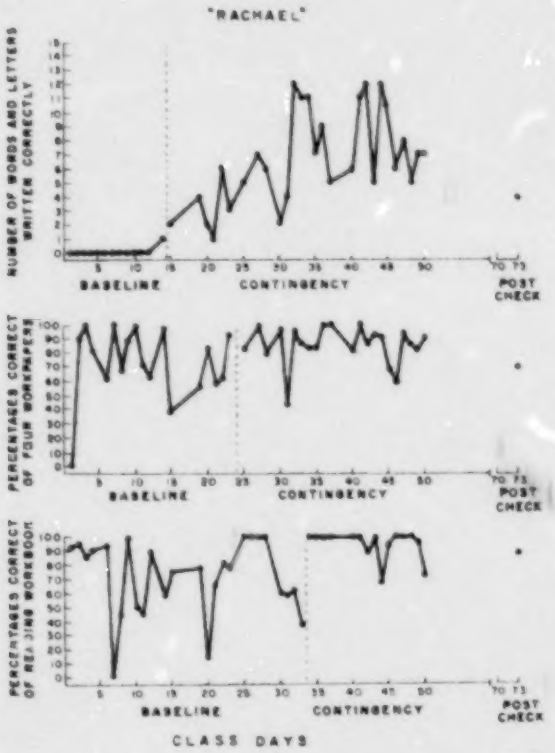

Fig. 3. Daily correct language responses for Rachael.

Figure 4 presents the results for Cal when the token system was applied contingently. During the writing baseline, correct responses averaged less than 1, with a range of 0 to 2. During contingency, the mean number of correct responses increased to 7, ranging from 1 to 12. In baseline for the workbook behavior, a mean of 70% correct was obtained, with a range of 52% to 100% correct. When points

were applied contingently, the mean increased to 88% correct, ranging from 67% to 100% correct. The mean number of correct responses for the baseline in the workbook behavior was 74%, with a range of 0% to 100% correct. During contingency, the mean increased to 94% correct, ranging from 67% to 100% correct.

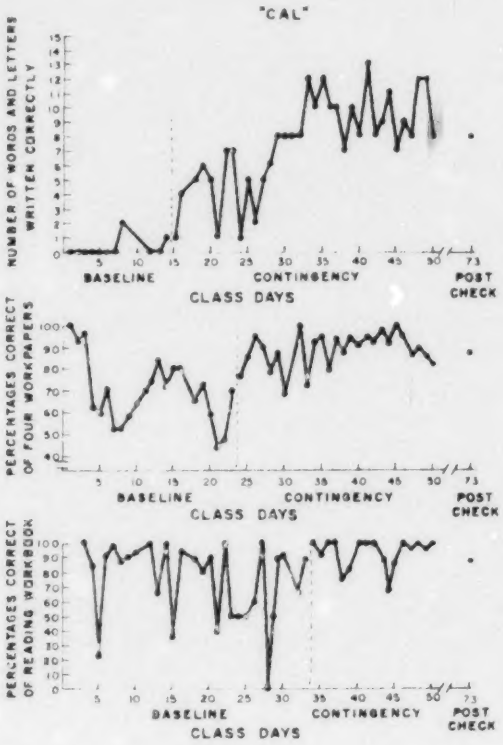

Fig. 4. Daily correct language responses for Cal.

Figures 5 through 10 reflect the writing skills of Ronny, Rachael, and Cal at different points during the study.

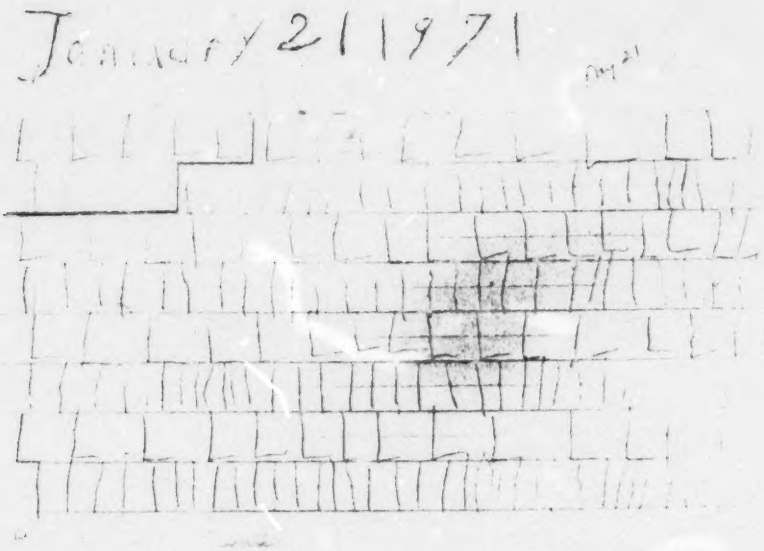

Fig. 5. Writing sample for Ronny during baseline conditions (January)

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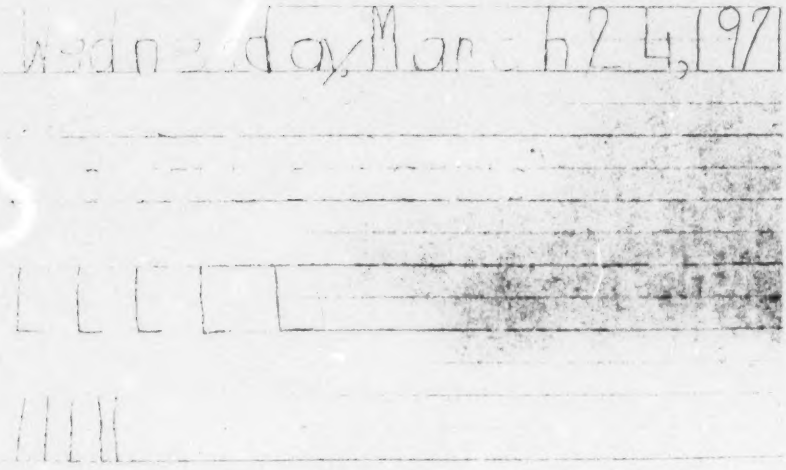

Fig. 6. Writing sample for Ronny during contingency period (March)

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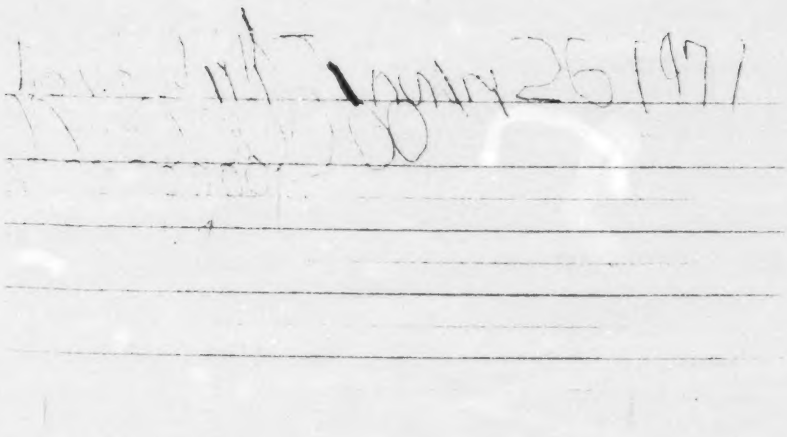

Fig. 7. Writing sample for Rachael during baseline conditions (January)

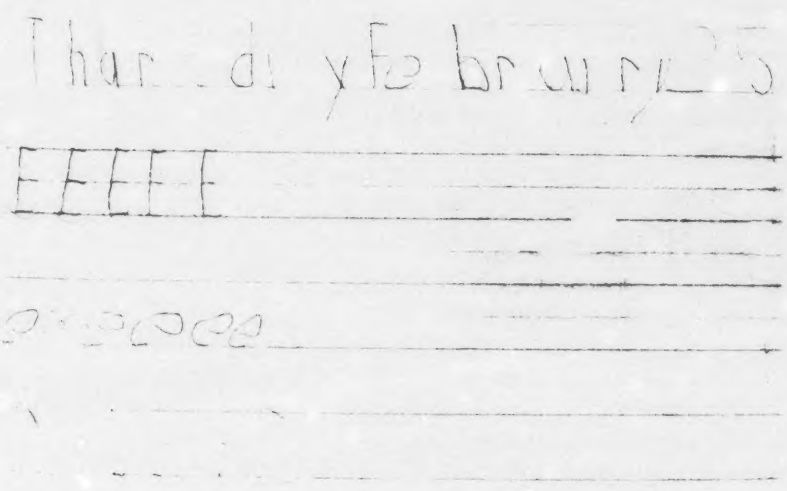

Fig. 8. Writing sample for Rachael during contingency period (February)

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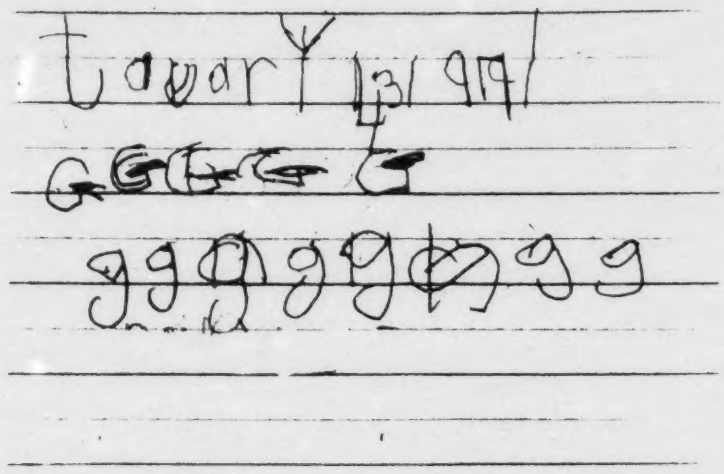

Fig. 9. Writing sample for Cal during baseline conditions (January)

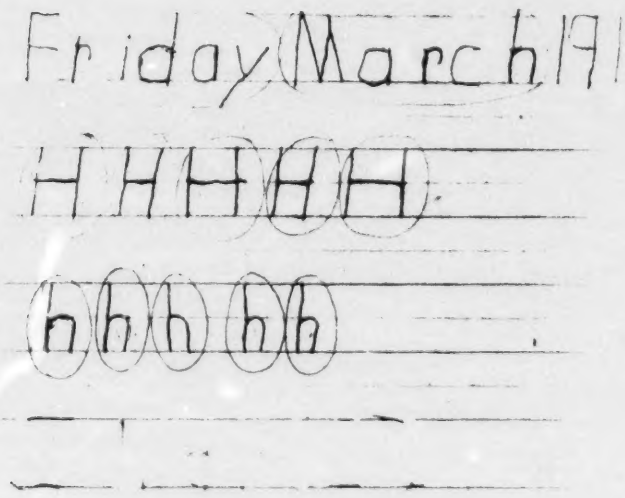

Fig. 10. Writing sample for Cal during contingency period (March)

DISCUSSION

The systematic application of learning conditions was monitored by precise measurement of academic behavior. Measures obtained during baseline conditions were lower than those obtained during contingency for all pupils in the classroom.

The token system used was both effective and easily monitored by the teacher. General classroom behavior became more acceptable, and all of the pupils developed improved independent study habits. As is demonstrated by the examples, the writing behavior of Rachael, Ronny, and Cal, especially, improved. The accuracy in written work also increased in all cases.

It was reported that the children continued to maintain these improved study habits in their afternoon class with another teacher.

PROCEDURES

Subject and classroom

Peter was an eight-year-old boy in a second-grade classroom of 35 children. He attended a parochial school in a middle income area. Peter's teacher was concerned about his attitude toward school, as well as his academic work. He rarely attended to the task at hand, played with his erasers and crayons, sharpened his pencil, and walked about the room. His assignments were seldom complete and frequent errors were the rule, rather than the exception. Peter found few friends in school, and was often chided for his incorrect answers. His general attitude was one of unhappiness and dislike for his situation. Peter's parents were extremely dissatisfied with his academic progress, as well as his behavior at home. He was often heard to say, "No one likes me. I want to die." The boy was also receiving psychological services at the time of this study.

Behavior

It was decided to measure Peter's academic and attending behavior during math periods. The percent complete and the percent correct of the daily math assignment were recorded by the teacher. The percent of attending was obtained by observing Peter at the end of every three minutes during the 30-minute study period. The number of times he was engaged in study, i.e., face oriented to task,

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divided by the total number of observations (10), multiplied by 100, yielded the percent of attending behavior.

Measurement and reliability

The percent complete and percent correct were measured by the teacher during the daily 30-minute independent study period, from 1.00 to 1.30. Attending was measured periodically by the teacher or consulting teacher.

To insure objectivity of definition and measurement procedures, a second observer recorded attending behavior at the same time and in the same manner. Reliability for the academic data was found by the second observer independently calculating the percent correct and complete on individual assignments. Both the teacher and the observer were in 100% agreement for all seven reliability checks for both academic and attending responses.

Teaching/learning methods and materials

During math, the teacher instructed the entire class. A 30-minute independent study period followed when children were to complete their assignments in the workbook. Papers were then passed in for correction. During the study period, the teacher circulated among the children, answered questions, and occasionally, placed a correct mark on the work of various pupils.

Baseline

Occasionally, the teacher prompted Peter to begin his work, and helped him find the necessary materials (pencil, eraser.) She measured the percent complete and percent correct of the assigned work, as well as the percent of attending, throughout this condition.

Contingency

The teacher began to consistently place "big red C's" on the correct answers on Peter's assignment, and praised him for his good work. At the same time, she ignored any incorrect responses. When Peter worked appropriately, he received a 'happy face card' to take home which stated, 'I have worked hard today.' With the parents cooperation, Peter received enthusiastic praise at home for receiving these cards. The cards were exchanged for at least ten minutes of undivided attention from Peter's father. When five cards in one week were earned, Peter accompanied his father on a special activity during the weekend.

RESULTS

Figure 1 shows that during baseline the average percent complete of the daily work assigned to Peter was 93%, ranging from 67% to 100%. The average percent correct was 76%, with a range of 50% to 97%. The average percent of attending was 80%, with a range of 70% to 100%.

When teacher attention, big red C's, happy face cards, and parent attention at home were made contingent upon Peter's appropriate academic behavior, all three behaviors increased. The percent complete increased to a mean of 99%. On all but one day, Peter completed the total assignment. The percent correct increased to a mean of 97, ranging from 73% to 100%. The percent of attending increased to a mean of 97%, ranging from 90% to 100%.

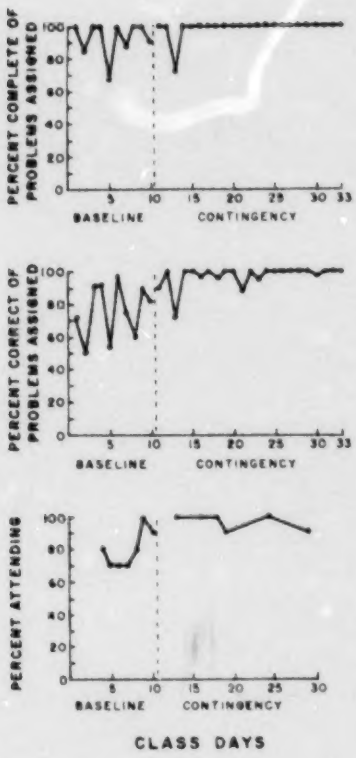

Fig. 1. A measure of Peter's completion, accuracy and attending during math periods.

DISCUSSION

Systematic and consistent application of various modes of teacher and parent attention successfully increased the academic behavior of Peter. A scientific verification was not carried out because it was felt that it would be detrimental to the child. During this study, Peter's attitude appeared to change. The teacher reported he was much happier in school. He volunteered answers, smiled, made new friends, and experienced greater success in all academic areas. He was reported to have said, "I really like work now. I just made up my mind to do it, and I can!" His parents

reported a happier attitude at home with fewer undesirable behaviors being emitted. They were extremely pleased with his improved academic success.

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PROCEDURES

Subject and classroom

Matthew was a ten-year-old fourth-grade boy who attended a parochial school. Matthew experienced great difficulty in reading, and was at least a year behind fourth-grade reading level. Matthew's spelling was inaccurate. He scored no more than four words correct out of twenty on any spelling test given during the year.

Behavior

Since Matthew had not passed any spelling tests that year, the teacher chose to work on spelling behavior. On the Monday of every week, Matthew was given a list of 20 spelling words to study in any way he chose. He was required to write each word ten times and pass this in to the teacher on Thursday of the same week. On Friday, Matthew and his class were presented 20 of the 20 words. Test words were randomly chosen by the teacher.

Measurement and reliability

The behavior measured was the percent correct on this final spelling test. Reliability measures were carried out by a second observer periodically correcting the test independently, and comparing the results with the teacher's data. Both the observer and the teacher were found to be in 100% agreement on all three reliability checks.

Teaching/learning methods and materials

The weekly list of spelling words was taken from the fourth-grade spelling book, My Word Book-Four (Lyons and Carnahan, 1962.)

Baseline

The teacher graded the weekly spelling test by placing an x' beside the misspelled words and writing the percent correct at the top of the page. The test was then returned to Matthew.

Contingency

The teacher corrected the weekly spelling test by placing a red "C" next to the words spelled correctly. At the top of the paper she placed the percent correct. Matthew was told that when he completed the written assignment each week and obtained a score of 70% or better on the test, he would earn the right to attend a Boy Scout meeting for that week. The 70% correct criteria remained in effect for four weeks, at which time the criteria was increased to 80% correct for four more weeks. Finally the criteria was increased to 85% correct, where it remained for the rest of the study. Matthew's mother allowed him to attend the Boy Scout meetings when he met criteria.

RESULTS

Figure 1 shows the percent correct for each weekly spelling test. During baseline, the average percent correct was 18%, ranging from 5% to 20%.

During contingency, Matthew's test scores increased to an average of 86% correct, with a range of 60% to 90%. Matthew met the established criteria on all occasions but two.

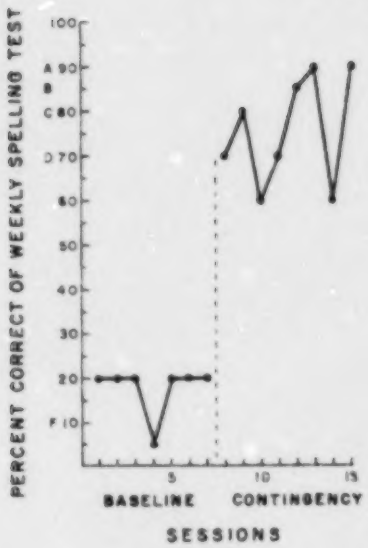

Fig. 1. Percent correct on weekly spelling tests.

DISCUSSION

The systematic application of a home consequence for appropriate academic behavior was demonstrated to successfully increase the spelling accuracy of this fourth-grade boy. The teacher began to consistently praise Matthew for his appropriate work in spelling and other academic areas. She reported a general improvement in his reading ability as well. The success of this study depended upon the consistent application of the reinforcement by Matthew's mother. Without her cooperation, the results of this study might have been less dramatic.

This study demonstrates the effectiveness of parent/teacher cooperation in helping to improve a child's academic behavior.

Dorothy Hamilton - Thayer Elementary School

PROCEDURES

Subject and classroom

Tammy was an eight-year-old child in the fourth year of school. She had a minimal hearing loss. In the past the school speech therapist worked with Tammy on articulation problems.

Tammy's classroom teacher worked with small groups of four to five children to develop specific skills in reading and math. There were 21 children in the classroom.

Behavior

At the beginning of the school year, Tammy's teacher noted that Tammy mispronounced the consonant 's' in nearly every word in which it occurred. When Tammy mispronounced an "s", the teacher often asked her to say the word again. Tammy occasionally substituted another word without an 's' and thus avoided another mispronunciation.

The teacher discussed the possibility of more therapy sessions with the speech therapist. Since Tammy could produce the 's' correctly when she made a concentrated effort, the speech therapist indicated that more sessions were not needed. However, practice in normal conversation was essential.

A mispronounced 's' was defined as a 'th' sound produced by improper formation of the tongue and teeth.

Measurement and reliability procedures

During a small group reading session of fifteen minutes dura-

tion, the teacher depressed a tally counter every time Tammy mispronounced an "s". A second observer counted and tallied mispronounced "s's" during the same time period on several occasions.

Teaching/learning methods and materials

During the fifteen-minute session, the teacher asked the group questions about a specific story in a basal reader. All children had an opportunity to answer and discuss the questions when called on by the teacher.

Baseline

The teacher depressed the tally counter whenever Tammy emitted a mispronounced 's'. She did not ask Tammy to repeat the words, but continued with the lesson.

Contingency

The teacher explained to Tammy what she had been counting. Tammy was given a bar graph with the results of the last day of baseline colored in. On any day when Tammy made the same or less mistakes than the day before, she was allowed to color in the graph.

Measurement and reliability procedures were carried out by the teacher and an independent observer in the same manner as before.

RESULTS

Figure 1 shows that during the five days of baseline procedures, the number of mispronunciations ranged from 4 to 19, with an average of 14 mispronunciations.

During nine days of contingency procedures, the number of mispronunciations ranged from 0 to 8, with an average of 3.

Measurements of reliability were obtained on five occasions throughout the study. Figure 1 shows this reliability by co-functions.

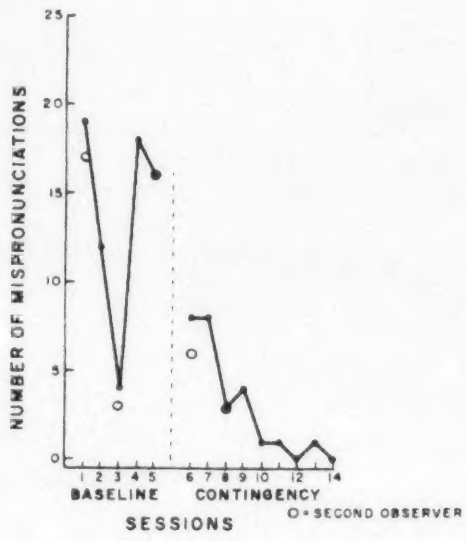

Fig. 1. Daily number of mispronunciations made by Tammy.

DISCUSSION

Through an AB design, it is apparent that "graph-feedback" procedures may have been effective in helping Tammy produce the correct "s" sound. The teacher reported that Tammy was also attempting to pronounce the "s" sound correctly during other periods of the school day.

It is not possible in this design to deliniate which variable, if any, controlled the child's behavior--that of the child's know-

ledge of the teacher's tally procedures, or the graphing contingency itself. However, the teacher developed an effective procedure for follow up activities after Tammy had received help from a school specialist.

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Connie Miles - Lawrence Barnes School Annex

PROCEDURES

Subject and classroom

Connie was a seven-year-old girl in the first grade. The preceding fall, Connie obtained a score of 36 (low-medium) on the Metropolitan Readiness test. This study was carried out in the learning center where Connie's class went daily.

Behavior

Connie attempted little of the assigned work during the 30 minute learning center period. When she hurried through the work at the end of the period, it was inaccurate. Connie's printing was poor. Her teacher asked her to copy a model letter, upper case on one side of the paper, lower case on the other as many times as possible in a fifteen-minute period. An overlay with thicker model letters was placed over Connie's paper. If her letter fit within the confines of the model, the letter was judged accurate.

Measurement Procedures

The teacher counted the number of correctly formed letters.

Baseline 1

The teacher gave Connie a pencil, an eraser, and lined paper with one model upper case letter on one side and one model lower case letter on the other. At the end of a fifteen-minute period, the teacher collected the paper.

Contingency 1

The teacher made a special loose leaf notebook for Connie. When Connie accurately formed at least 10 letters during the fifteen-minute period, she was allowed to put the page in the book and take it home. The teacher also went to Connie at three-minute intervals and checked her work for accuracy.

Scientific Verification

The teacher kept Connie's notebook which Connie thought she had left at home. She did not make checks for accuracy at three-minute intervals.

Contingency 2

For the first four days, the teacher reinstated the three-minute accuracy checks. The notebook was then returned on the fifth day.

Thinning

The time period was shortened to 7½ minutes, and the teacher made one accuracy check in the middle of the period.

RESULTS

Figure 1 shows that during baseline the number of accurately formed letters ranged from 0 to 3, with an average of 1. During Contingency 1, there was a range of 8 to 21 correct letters, with an average of 14. During scientific verification, correct letters ranged from 1 to 8, with an average of 4. In Contingency 2, the range was 7 to 25, with an average of 15. When the thinning process was instituted, the range was 10 to 19, with an average of 13 correct letters.

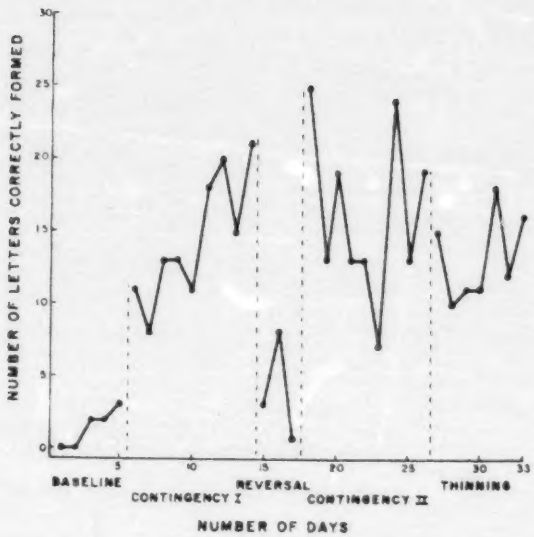

Fig. 1. Daily number of correctly formed letters.

DISCUSSION

Connie's rate of correct letter formation rose dramatically during both contigency periods. The three-minute checks by the teacher when reinstated alone during the second contingency, for the first four days showed that this was as effective a reinforcer as the notebook. The rate stayed almost exactly the same when the notebook was returned. However, during the thinning process, when Connie was allowed half as much time to work and the teacher made one check, she still maintained an average of 13 letters.

The teacher reported that Connie took great interest in her writing work, she asked to do over the letters that were assigned during the reversal period, and she was able to tell the teacher which would be the correctly formed letters before they were checked with the overlay.